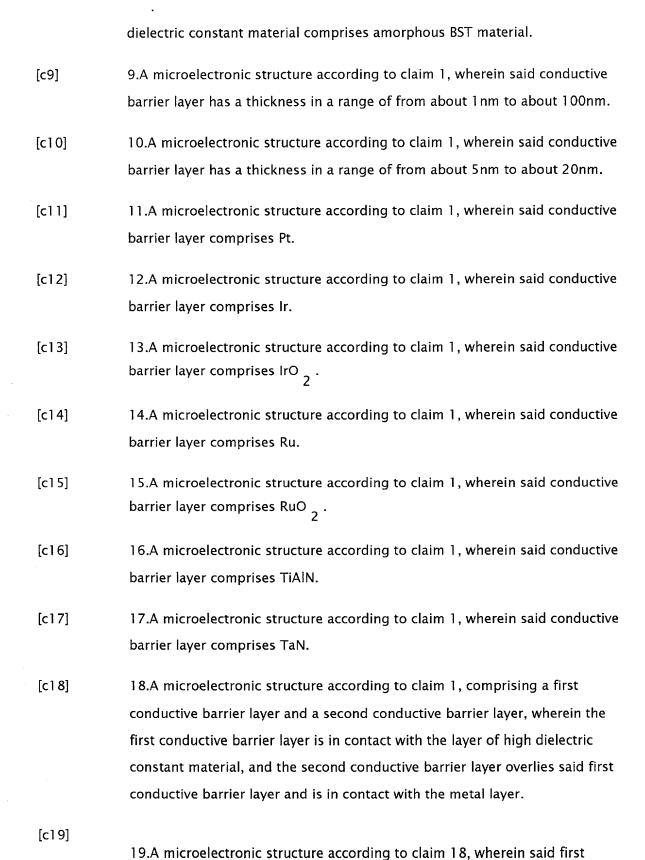
Claims

[C1]	What is claimed is:
	1.A microelectronic structure comprising:
	at least one layer of high dielectric constant material;
	at least one conductive barrier layer in contact with the layer of high
	dielectric constant material, wherein such conductive barrier layer comprises at least one material selected from the group consisting of Pt, Ir, IrO 2, Ir
	O 3, Ru, RuO 2, binary metal nitrides, ternary metal nitrides, and
	compatible combinations, mixtures and alloys thereof;

at least one metal layer in contact with the conductive barrier layer, wherein said metal layer comprises metal or metal alloy including a material selected from the group consisting of Cu and Al.

- [c2] 2.A microelectronic structure according to claim 1, wherein said binary metal nitrides and ternary metal nitrides are selected from the group consisting of TaN, NbN, HfN, ZrN, WN, W 2 N, TiN, TiSiN, TiAlN, TaSiN, and NbAlN.
- [c3] 3.A microelectronic structure according to claim 1, wherein said conductive barrier layer comprises TiAIN.
- [c4] 4.A microelectronic structure according to claim 1, wherein said metal layer comprises Cu or Cu alloy.
- [c5] 5.A microelectronic structure according to claim 1, wherein said metal layer comprises Al or Al alloy.
- [c6] 6.A microelectronic structure according to claim 1, wherein said layer of high dielectric constant material comprises a complex metal oxide selected from the group consisting of SrBi 2 Ta 2 O 9 (SBT), (Ba,Sr)TiO 3 (BST), BiTaO 4 (BT), and Pb(Zr,Ti)O 3 (PZT).
- [c7] 7.A microelectronic structure according to claim 1, wherein said layer of high dielectric constant material comprises perovskite BST material.
- [c8]
 8.A microelectronic structure according to claim 1, wherein said layer of high



conductive barrier layer comprises Pt, and said second conductive barrier

layer comprises	IrO	2	
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- [c20] 20.A microelectronic structure according to claim 18, wherein said first conductive barrier layer comprises Pt, and said second conductive barrier layer comprises TiAIN.
- [c21] 21.A microelectronic structure according to claim 18, wherein said first conductive barrier layer comprises Pt, and said second conductive barrier layer comprises Ir.
- [c22] 22.A microelectronic structure according to claim 18, wherein said first conductive barrier layer comprises Ir, and said second conductive barrier layer comprises IrO $_2$.
- [c23] 23.A microelectronic structure according to claim 18, wherein said first conductive barrier layer comprises Ir, and said second conductive barrier layer comprises TiAIN.
- [c24] 24.A microelectronic structure according to claim 18, wherein said first conductive barrier layer comprises IrO $_2$, and said second conductive barrier layer comprises Ir.
- [c25] 25.A microelectronic structure according to claim 18, wherein said first conductive barrier layer comprises IrO 2, and said second conductive barrier layer comprises TiAIN.
- [c26] 26.A microelectronic structure according to claim 1, comprising a first conductive barrier layer, a second conductive barrier layer, and a third conductive barrier layer, wherein said first conductive barrier layer is in contact with the layer of high dielectric constant material, said second conductive barrier layer overlies said first conductive barrier layer, and said third conductive barrier layer overlies said second conductive barrier layer and is in contact with the metal layer.
- [c27] 27.A microelectronic structure according to claim 26, wherein said first conductive barrier layer comprises IrO 2, said second conductive barrier

layer comprises Ir $_2$ O $_3$, and said third conductive barrier layer comprises Ir.

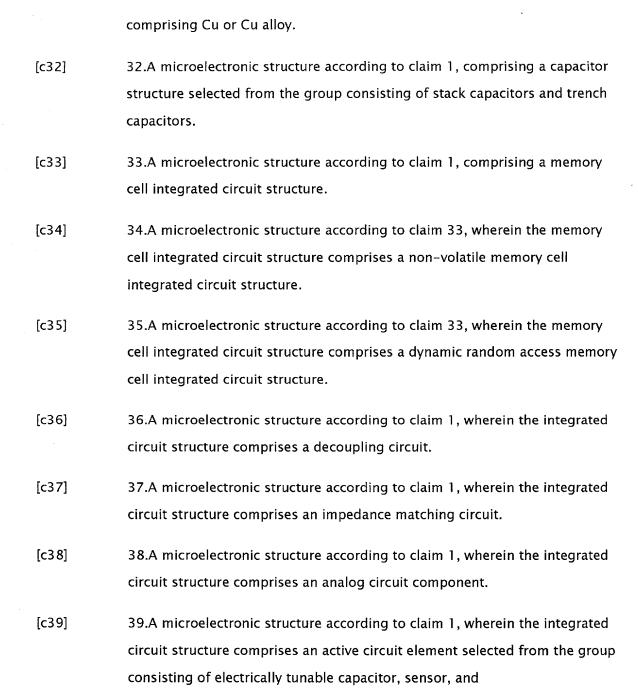
- [c28] 28.A microelectronic structure according to claim 1, comprising:
 at least one layer of perovskite BST material;
 a first conductive barrier layer in contact with the layer of perovskite BST material, and comprising Pt;
 a second conductive barrier layer overlaying said first conductive barrier layer, and comprising Ir; and at least one metal layer in contact with said second conductive barrier layer, comprising Cu or Cu alloy.
- [c29] 29.A microelectronic structure according to claim 1, comprising: at least one layer of amorphous BST material; a conductive barrier layer in contact with the layer of amorphous BST material, comprising at least one material selected from the group consisting of Ir, Ru, RuO 2, and IrO 2; at least one metal layer in contact with the conductive barrier layer, comprising Cu or Cu alloy.
- [c30] 30.A microelectronic structure according to claim 1, comprising:

 at least one layer of amorphous SBT material;

 a conductive barrier layer in contact with the layer of amorphous SBT material, comprising at least one material selected from the group consisting of Ir, Ru, TaN, TiN and TiAIN;

 at least one metal layer in contact with the conductive barrier layer, comprising Cu or Cu alloy.
- [c31]

 31.A microelectronic structure according to claim 1, comprising:
 at least one layer of PZT material;
 a conductive barrier layer in contact with the layer of PZT material,
 comprising at least one material selected from the group consisting of Ir, Ru,
 RuO 2, and IrO 2;
 at least one metal layer in contact with the conductive barrier layer,



microelectromechanical machine MEMS).